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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,201	11/20/2003	Ryoichi Mukai	0941.68754	9822

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Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD.
Suite 2500
300 South Wacker Dr.
Chicago, IL 60606

EXAMINER

RICKMAN, HOLLY C

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,201	Applicant(s) MUKAI, RYOICHI	
	Examiner Holly Rickman	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. For purposes of examination “granular” in the context of the Cr-based underlayer has been interpreted to mean having crystal grains and grain boundaries. Each of the references applied below inherently meet this limitation by virtue of the fact that they teach crystalline Cr layers.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 5-6 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Ryonai et al. (US 6242085).

Ryonai et al. disclose a magnetic recording medium having a substrate, a Cr alloy underlayer, and two Co-based magnetic layers containing silicon nitride, silica, or alumina (col. 3, lines 51-53; col. 4, lines 16-22 and 30-34).

4. Claims 1-3, 5-6 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakawaki et al. (US 2002/0160234).

Sakawaki et al. disclose a magnetic recording medium having a Cr underlayer on a substrate and three magnetic layers thereon. The magnetic layers are formed

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from a granular Co-based alloy containing silica, alumina, or silicon nitride (paragraphs 97-98, 107, 196-197, 223 and Fig 7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ryonai et al. (US 6242085), in view of Takahashi et al. (US 6119483).

Ryonai et al. teach all of the limitations of the claims, as detailed above, except for the presence of a Cr or Cr alloy layer on top of the magnetic recording layer. Instead the reference teaches the use of a protective overcoat on the magnetic layer which is formed from C (col. 3, lines 54-55).

Takahashi et al. teach a magnetic recording medium having a granular magnetic layer and a protective overlayer thereon which is formed from a material such as C or Cr (col. 8, lines 42-63).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute a Cr overcoat for the C overcoat taught by Ryonai et al. in view of the teaching of equivalence of the two materials set forth by Takahashi et al.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakawaki et al. (US 2002/0160234), in view of Takahashi et al. (US 6119483).

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Sakawaki et al. teach all of the limitations of the claims, as detailed above, except for the presence of a Cr or Cr alloy layer on top of the magnetic recording layer. Instead the reference teaches the use of a protective overcoat on the magnetic layer which is formed from C.

Takahashi et al. teach a magnetic recording medium having a granular magnetic layer and a protective overlayer thereon which is formed from a material such as C or Cr (col. 8, lines 42-63).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute a Cr overcoat for the C overcoat taught by Sakawaki et al. in view of the teaching of equivalence of the two materials set forth by Takahashi et al.

Response to Arguments

8. Applicant's arguments filed 10/18/04 have been fully considered but they are not persuasive.

Applicant argues that the newly added limitation directed to a "granular" Cr-based underlayer overcomes the prior art. While "granular" has a known meaning in the magnetic art as it related to magnetic layers (i.e., presence of non-magnetic grain boundary regions), the Examiner contends that the specification and prior art do not clearly define "granular" in the same way for a non-magnetic layer. Thus, the term has been given its broadest reasonable interpretation as noted in paragraph no. 1, above.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Holly Rickman", with a stylized flourish at the end.

Holly Rickman
Primary Examiner
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